ORION
CREW EXPLORATION VEHICLE

WEEKLY ACCOMPLISHMENTS

10.08.10

The Orion team successfully completed another parachute airdrop test at the Army Yuma Proving Grounds test range in Yuma, Arizona. The objective of this test was to evaluate the effect of increasing the main parachute geometric porosity in a two parachute cluster configuration. Increased porosity is expected to provide increased parachute stability, which results in more predictable landing conditions. The porosity in each of the main parachutes was increased by removing a set of panels in the canopies being tested. The weight tub platform landed safely on the test range, and the team is evaluating test data while they prepare for their next test, scheduled for later this year.

This test is the 8th airdrop test in a series of 9 rigorous development tests for the Generation 2 (Gen2) parachutes which has explored further parachute performance improvements, based upon the results from the Generation 1 (Gen1) test series. Gen1 was the first series of development airdrop tests performed to understand the characteristics of the Orion parachutes. Starting in 2011, the Engineering Development Unit (EDU) test series which will begin with a series of tests to fully characterize the system performance, including deployment in the various operational configurations, validate model simulations, reduce technical risk and demonstrate reliability. In total, these test series will provide the insight into the parachute system leading to use on OFT1, and qualification for human flight.

Progress continues on the Crew Module (CM) Ground Test Article (GTA) at the Michoud Assembly Facility in New Orleans, Louisiana with the drilling of the holes that will attach the Thermal Protection Support Structure (TPSS) to the CM GTA. The hundreds of holes drilled over the next few days, will allow the team to permanently attach the TPSS to the CM GTA in the next couple of weeks.

During its cross country trek to the Kennedy Space Center (KSC), the Orion Launch Abort System Pathfinder (shown above and in banner on first page) stopped at the Adler Planetarium in Chicago. Shown in image is Adler Planetarium President Paul H. Knappenberger Jr. with NASA Orion Deputy Project Manager Mark Kirasich, Flight Test Office Lead Jay Estes and Lockheed Martin propulsion engineer Lisa Holowinski. Prior to arriving in Chicago, the LAS stopped at Orion High School in Orion, Illinois and at the Hamilton Sundstrand offices in Rockford, Illinois.

The NASA/industry team spoke with museum visitors, students and media who came out to see the LAS. A group of freshmen students from Northeastern Illinois University also came out to talk with the Orion team. Chicago natives Lisa Holowinski and Mark Kirasich were born and raised in Chicago and had the opportunity to talk with former colleagues and classmates about their work on the Orion project. In addition, Kirasich made a visit to his high school alma mater, the Benet Academy in Lisle, Illinois to talk with math, science and physics students. The LAS is now at the Great Lakes Science Center in Cleveland, Ohio, Oct. 9-14, and will continue on to the Franklin Institute in Philadelphia, Pa., Oct. 16-17, the EarthFest at Langley Research Center in Virginia Oct. 23-24 and then arrive at the Kennedy Space Center Visitor Center in Florida on Oct. 26.

Orion Project Manager Mark Geyer and Deputy Manager Mark Kirasich recently made a visit to NASA Langley Research Center. During their visit, Geyer and Kirasich held an all-hands for Orion employees. Shown right is Bruce Owens of the Orion Launch Abort System Flight Dynamics Branch discussing the Orion tests that have been conducted in the Vertical Spin Tunnel.